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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/772,360

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Hitoshi Furukawa

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EXAMINER

MILIA, MARK R

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/772,360	Applicant(s) FURUKAWA, HITOSHI	
	Examiner Mark R. Milia	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2009 and 13 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-8,10 and 11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-8,10 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/21/09 and 2/13/09 has been entered. Currently, claims 1, 3-8, and 10-11 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1 and 11 have been considered but are moot in view of the current amendment to the claims and therefore a new ground(s) of rejection will be made.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-8, and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanyu (US 7,131,124) in view of U.S. Patent Application Publication No. 2003/0093612 to Ootani et al.

Regarding claim 1, Hanyu discloses a data transfer method between a first controller which controls an engine section for forming an image and a second controller which transmits image data to the first controller, wherein the engine section includes a nonvolatile memory, wherein in an image forming operation mode of forming an image with the engine section, the method comprises: notifying the second controller of a condition change of the engine section by the first controller, (see Fig. 3 and column 8 line 59-column 9 line 60, input section **502** determines when an instruction to download a control program from a host computer is input via a control panel **303** and if so, the engine controller **301** terminates all operations of the printer engine and clears the flash EEPROM **301b** as to ready the flash EEPROM for download on the new control program. After the engine controller **301** completes the above tasks, it sends a demand for transmission, which is also seen as a notification that the engine controller is ready for control program download, to the printer controller **300**, which in turn acquires the control program from the host and then transfers the control program frame by frame to the engine controller **301** for writing of the program into memory, flash EEPROM **301b**), and transmitting a condition request instruction by the second controller to the first controller via a data signal line, in response to the notification of the condition change (see column 9 lines 4-10, in response to a download instruction the engine controller

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301 terminates the operation of each component of the printer engine **302**), and wherein in a rewrite mode of rewriting the nonvolatile memory, the method comprises: transmitting a rewrite instruction by the second controller to the first controller (see Fig. 3, column 4 lines 47-49, column 7 lines 30-34 and 48-54, column 8 lines 59-67, and column 9 lines 3-50, synchronization is established after an instruction to download a control program is detected, then the engine controller requests transmission of a downloaded program from the printer controller, which in turn receives the downloaded program from the host computer, thereby instruction to retrieve the downloaded control program is initiated and in response the control program is transferred to the engine controller and the flash memory is rewritten with the new program), transmitting rewrite data by the second controller to the first controller via the data signal line, in response to the rewrite instruction, and rewriting the nonvolatile memory of the engine section by the first controller, by the rewrite data transmitted from the second controller (see Fig. 3, column 8 lines 1-8, and column 9 lines 51-65).

Hanyu does not disclose expressly notifying a condition change by changing a signal level of a report signal line, transmitting a condition request instruction by the second controller to the first controller via a data signal line, in response to the notification of the condition change, and transmitting rewrite data in accordance with the signal level of the report signal line changed by the first controller.

Ootani discloses notifying a condition change by changing a signal level of a report signal line, transmitting a condition request instruction by the second controller to the first controller via a data signal line, in response to the notification of the condition

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change, and transmitting rewrite data in accordance with the signal level of the report signal line changed by the first controller (see paragraphs 40-41, 44-47 and 56-60, status signal RYIBY informs flash memory control circuit **3** of a busy or ready state of the flash memory **2** and in return flash memory control circuit **3** sends a HOLD signal to CPU **1**, in which two levels are set, "H" or "L" informing the CPU **1** of the ability or inability to communicate with flash memory **2**, and even further a read mode and write/re-write mode for a control program is controlled by control signals ICE, IWE, and IOE).

Regarding claim 11, Hanyu discloses an image forming apparatus including a first controller which controls an engine section for forming an image and a second controller which transmits image data to the first controller, wherein the engine section includes a nonvolatile memory, and wherein the image forming apparatus is configured to operate in an image forming operation mode of forming an image with the engine section, or a rewrite mode of rewriting the nonvolatile memory, the apparatus comprising: means for, in the image forming operation mode, notifying the second controller of a condition change of the engine section by the first controller, (see Fig. 3 and column 8 line 59-column 9 line 60, input section **502** determines when an instruction to download a control program from a host computer is input via a control panel **303** and if so, the engine controller **301** terminates all operations of the printer engine and clears the flash EEPROM **301b** as to ready the flash EEPROM for download on the new control program. After the engine controller **301** completes the above tasks, it sends a demand for transmission, which is also seen as a notification that the engine

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controller is ready for control program download, to the printer controller **300**, which in turn acquires the control program from the host and then transfers the control program frame by frame to the engine controller **301** for writing of the program into memory, flash EEPROM **301b**), means for, in the image forming operation mode, transmitting a condition request instruction by the second controller to the first controller, in response to the notification of the condition change (see column 9 lines 4-10, in response to a download instruction the engine controller **301** terminates the operation of each component of the printer engine **302**), means for, in the rewrite mode, transmitting a rewrite instruction by the second controller to the first controller (see Fig. 3, column 4 lines 47-49, column 7 lines 30-34 and 48-54, column 8 lines 59-67, and column 9 lines 3-50, synchronization is established after an instruction to download a control program is detected, then the engine controller requests transmission of a downloaded program from the printer controller, which in turn receives the downloaded program from the host computer, thereby instruction to retrieve the downloaded control program is initiated and in response the control program is transferred to the engine controller and the flash memory is rewritten with the new program), means for, in the rewrite mode, transmitting rewrite data by the second controller to the first controller, in response to the rewrite instruction, and means for, in the rewrite mode, rewriting the nonvolatile memory of the engine section by the first controller, by the rewrite data transmitted from the second controller (see Fig. 3, column 8 lines 1-8, and column 9 lines 51-65).

Hanyu does not disclose expressly signal lines for communication between the first controller and the second controller, wherein the signal lines include a report signal

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line and a data signal line, wherein a signal level of the report signal line is changed by the first controller, and wherein the data signal line is for transmitting data from the second controller to the first controller, notifying a condition change by changing a signal level of a report signal line, transmitting a condition request instruction by the second controller to the first controller via a data signal line, in response to the notification of the condition change, and transmitting rewrite data in accordance with the signal level of the report signal line changed by the first controller.

Ootani discloses signal lines for communication between the first controller and the second controller, wherein the signal lines include a report signal line and a data signal line, wherein a signal level of the report signal line is changed by the first controller, and wherein the data signal line is for transmitting data from the second controller to the first controller, notifying a condition change by changing a signal level of a report signal line, transmitting a condition request instruction by the second controller to the first controller via a data signal line, in response to the notification of the condition change, and transmitting rewrite data in accordance with the signal level of the report signal line changed by the first controller (see paragraphs 40-41, 44-47 and 56-60, status signal RYIBY informs flash memory control circuit **3** of a busy or ready state of the flash memory **2** and in return flash memory control circuit **3** sends a HOLD signal to CPU **1**, in which two levels are set, “H” or “L” informing the CPU **1** of the ability or inability to communicate with flash memory **2**, and even further a read mode and write/re-write mode for a control program is controlled by control signals ICE, IWE, and IOE).

Hanyu & Ootani are combinable because they are from the same field of endeavor, rewriting of control programs.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the use of signal and reporting lines that indicate condition change and status information, as described by Ootani, and which is well known and commonly used in the art, with the system of Hanyu.

The suggestion/motivation for doing so would have been to decrease the possibility of errors during rewriting of data by notifying status and condition changes and busy and ready states to ensure proper writing of data is executed.

Therefore, it would have been obvious to combine Ootani with Hanyu to obtain the invention as specified in claims 1 and 11.

Regarding claim 3, Hanyu further discloses in the image forming operation mode, transmitting a condition of the engine section by the first controller to the second controller (see column 9 lines 4-10 and 32-37, in response to a download instruction the engine controller **301** terminates the operation of each component of the printer engine **302**. After the engine controller **301** completes the above tasks, it sends a demand for transmission, which is also seen as a notification that the engine controller is ready for control program download, to the printer controller **300**, which in turn acquires the control program from the host and then transfers the control program frame by frame to the engine controller **301** for writing of the program into memory, flash EEPROM **301b**). Ootani further discloses transmitting a condition of the engine section by the first

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controller to the second controller via a condition signal line in response to the condition request instruction (see paragraphs 36-41, status signal RYIBY indicates the busy or ready state of flash memory **2**), and in the rewrite mode, transmitting the condition of the first controller by the first controller to the second controller via the condition signal line, in accordance with the signal level of the report signal line (see paragraphs 40-41, status signal RYIBY indicates the busy or ready state of flash memory **2**).

Regarding claim 4, Hanyu further discloses wherein the condition of the first controller is one of a data transfer error, an erase or rewrite operation result of the nonvolatile memory, and an end of the rewrite operation of the nonvolatile memory (see column 5 lines 14-20 and column 9 line 66-column 10 line 5).

Regarding claim 5, Ootani further discloses wherein the first controller is able to change the signal level of the report signal line to a first level and a second level, wherein in the image forming operation mode, the second controller transmits the conditional request instruction to the first controller via the data signal line after the signal level of the report signal line is changed from the first level to the second level by the first controller, and wherein in the rewrite mode, the second controller transmits the rewrite data to the first controller after the signal level of the report signal line is changed from the second level to the first level by the first controller (see paragraphs 40-41, 44-47 and 56-60, status signal RYIBY informs flash memory control circuit **3** of a busy or ready state of the flash memory **2** and in return flash memory control circuit **3** sends a HOLD signal to CPU **1**, in which two levels are set, "H" or "L" informing the CPU **1** of the ability or inability to communicate with flash memory **2**, and even further a read mode

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and write/re-write mode for a control program is controlled by control signals ICE, IWE, and IOE).

Regarding claim 6, Ootani further discloses wherein in the rewrite mode, the first controller transmits the condition of the first controller to the second controller via the condition signal line while the report signal line is at the second level, after changing the signal level of the report signal line from the first level to the second level (see paragraphs 40-41, 44-47 and 56-60, status signal RYIBY informs flash memory control circuit **3** of a busy or ready state of the flash memory **2** and in return flash memory control circuit **3** sends a HOLD signal to CPU **1**, in which two levels are set, "H" or "L" informing the CPU **1** of the ability or inability to communicate with flash memory **2**, and even further a read mode and write/re-write mode for a control program is controlled by control signals ICE, IWE, and IOE).

Regarding claim 7, Ootani further discloses a step in the rewrite mode of determining that an error has occurred in the rewrite operation in a case where a predetermined time period elapses before the signal level of the report signal line is changed to the first level after being changed to the second level (see paragraphs 56-57).

Regarding claim 8, Hanyu further discloses wherein the rewrite data is a control program code data (see column 3 lines 50-54, column 3 line 66-column 4 line 3, and column 4 lines 47-49).

Regarding claim 10, Hanyu further discloses wherein the nonvolatile memory is a flash memory (see Fig. 3 **301b**).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark R. Milia whose telephone number is (571)272-7408. The examiner can normally be reached M-F 8:00am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached at (571) 272-7437. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mark R. Milia
Examiner
Art Unit 2625

/Mark R. Milia/

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/David K Moore/

Supervisory Patent Examiner, Art Unit 2625